Claims

1. A method for the diagnosis of glaucoma, characterized in that in a first step, autoantibodies against ocular antigens are detected and measured in body fluids of an individual, and, in a second step, the autoantibody pattern is correlated with corresponding patterns of healthy individuals and glaucoma patients.

2. The method according to claim 1 wherein the ocular antigens are retinal antigens, optic nerve antigens, optic nerve head antigens, trabecular meshwork antigens, uveal antigens, or a mixture of such antigens.

3. The method according to claim 2 wherein the ocular antigens are retinal antigens or optic nerve head antigens or a mixture thereof.

4. The method according to claim 1 wherein the body fluid is serum, tears, saliva, urine, aqueous humour, or vitreous body of the eye.

5. The method according to claim 4 wherein the body fluid is serum or tears.

6. The method according to claim 4 wherein the body fluid is serum.

7. The method according to claim 1 wherein the autoantibody pattern consists of at least 10 autoantibodies.

8. The method according to claim 7 wherein the autoantibody pattern consists of at least 20 autoantibodies.

9. The method according to claim 7 wherein the autoantibody pattern consists of at least 30 autoantibodies.

10. The method according to claim 1 wherein the autoantibodies are detected and measured in a Western blot assay, chemiluminescence assay, ELISA, or RIA.

11. The method according to claim 10 wherein the autoantibodies are detected and measured in a Western blot assay.

12. The method according to claim 1 wherein the autoantibodies are detected and measured on a protein chip array using surface-enhanced laser desorption / ionization (SELDI) or matrix assisted laser desorption / ionization (MALDI) mass spectrometry techniques.

13. The method according to claim 12 wherein the autoantibodies are detected and measured on a protein chip array using surface-enhanced laser desorption / ionization (SELDI) mass spectrometry technique.

14. The method according to claim 1 wherein the autoantibodies are detected and measured by incubating protein-A chips with sera of individuals, treating said protein-A chips with a solution of ocular antigens, separating ocular antigens bound by autoantibodies on said protein-A chips by their molecular masses, and detecting separated ocular antigens by mass spectrometry.

15. The method according to claim 1 wherein the autoantibodies are detected and measured by binding autoantibodies in sera of individuals to beads, treating said beads with a solution of ocular antigens, eluting ocular antigens bound by antigen-antibody reaction from the beads, and analyzing eluted ocular antigens using SELDI-TOF or conventional electrophoretical techniques.

16. The method according to claim 1 wherein the technique to generate the autoantibody pattern is based on digital image detection, processing, and analysis.

17. The method according to claim 1 wherein autoantibodies are detected and measured in an individual's serum.

18. The method according to claim 17 wherein the change in the antibody pattern over time is used to assess the progression and/or severeness of glaucoma.

19. A method of comparison of complex autoantibody patterns by calculation wherein a pattern of autoantibodies against ocular antigens of an individual is compared with a pattern of autoantibodies against ocular antigens of healthy individuals and with a pattern of autoantibodies against ocular antigens of glaucoma patients.

20. The method of comparison according to claim 19 wherein the pattern of autoantibodies against ocular antigens of glaucoma patients is the autoantibody pattern of patients with primary open-angle glaucoma or of patients with normal tension glaucoma.

21. The method of comparison according to claim 19 wherein the calculation is based on artificial neural network technique.

22. A method for assessing an individual's risk for developing glaucoma with or without an elevated intraocular pressure, characterized in that in a first step, autoantibodies against ocular antigens are detected and measured in body fluids of the individual, and, in a second step, the autoantibody pattern is correlated with corresponding patterns of healthy individuals and of glaucoma patients.

23. A kit for the diagnosis of glaucoma according to claim 1, comprising a ready-to-use ocular antigen mixture and chemicals and materials needed to perform the biochemical analysis.

24. The kit according to claim 23 wherein the chemicals and materials are suitable for conventional Western blotting technique.

25. The kit according to claim 23 wherein the chemicals and materials are suitable for the SELDI-TOF technique.

26. The kit according to claim 23 comprising biochips.